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$$f(x) = \sqrt{1-x^2} \rightarrow 1-x^2 \geq 0 \rightarrow 1 \geq x^2 \rightarrow -1 \leq x \leq 1 \Rightarrow D_f \\ D_f \cap D_g = \{1, 0, -1\} \rightarrow f \cdot g = \{(1, 4), (0, 5), (-1, 2)\} \checkmark$$

(۱, ۱/۵)

جمع ۱۱

$$f(x) = x-1 \rightarrow \text{if } D_f = [2, +\infty) \Rightarrow D_g = [5, +\infty) \\ g(x) = \frac{1}{x+2} \rightarrow \text{if } D_g = (-\infty, 3] \Rightarrow D_f = (-\infty, 5] \text{ II} \\ \text{I} \cup \text{II} \rightarrow \mathbb{R} - (5, 5) \checkmark$$

(۲)

$$\sqrt{b-a} = \sqrt{\frac{1}{x} + \frac{1}{x}} = \sqrt{\frac{2}{x}} \quad \text{II}$$

$$y = -\frac{x^2}{2} + x + \frac{3}{2} \rightarrow -\frac{x^2}{2} + x + \frac{3}{2} > \frac{3}{2} \rightarrow -\frac{x^2}{2} + x > 0 \rightarrow -1 < x < 3$$

$$(x - a - \frac{1}{x}) \rightarrow -(x - \frac{1}{x})(x + \frac{1}{x}) > 0 \quad \begin{matrix} x & + & \frac{1}{x} \\ - & + & - \end{matrix}$$

اینی $\frac{1}{x}$ کردی پس ریشه بابی $\frac{1}{x}$ کنی

$$\frac{1}{x} \times \frac{1}{x} = \frac{1}{x^2} \quad \frac{1}{x} \times \frac{1}{x} = \frac{1}{x^2} \quad \frac{1}{x} \times \frac{1}{x} = \frac{1}{x^2}$$

(۵, ۱/۵)

$$y = |x-1| + |x-2| + |x-3|$$

$$\begin{cases} x > 3 \rightarrow x-1 + x-2 + x-3 = 3x-6 \\ 2 < x < 3 \rightarrow x-1 - x+2 + x-3 = x-2 \\ 1 < x < 2 \rightarrow x-1 - x+2 - x+3 = -x+4 \\ x < 1 \rightarrow -x+1 - x+2 - x+3 = -3x+6 \end{cases} \quad \begin{matrix} x=2 \\ \text{min} \end{matrix} \quad |x-1| + |x-2| \geq 1 \checkmark$$

(۲)

$$y = |x| - 2|x+1| \quad \begin{cases} x > 0 \rightarrow x - 2x - 2 = -x - 2 \\ -1 < x < 0 \rightarrow -x - 2x - 2 = -3x - 2 \\ x < -1 \rightarrow -x + 2x + 2 = x + 2 \end{cases}$$

(۱, ۱/۵)



برد؟

$$R = (-\infty, 1]$$

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$$y = \frac{x^2 + 2x + m}{x+1} \Rightarrow x^2 + 2x + m = (x+1)(y) \Rightarrow x^2 + x(\Delta - 1) + m - y = 0$$

$$\Delta \geq 0 \Rightarrow 2\Delta + y^2 - 4y - 4(m-y) = y^2 - 4y + 4\Delta - 4m + 4y \geq 0$$

$$= y^2 - 4y - 4m + 4\Delta \geq 0 \Rightarrow (y-2)^2 - 4y + 4 \geq 0$$

$$\Rightarrow -4m + 4\Delta = 0 \Rightarrow -4m + 4 = 0 \Rightarrow m = 1$$

پاسخ نه رويجئون

$$f(x) = \begin{cases} x+2 & x \geq 2 \rightarrow R_f = [\Delta + \infty) \text{ I} \\ x^2 - 2x + 2 & 0 < x < 2 \rightarrow \frac{-b}{2a} = \frac{-(-2)}{2} = 1 \rightarrow 1-2+2=1 \rightarrow R_f = [1, \Delta) \text{ II} \\ |x|+2 & x < 0 \rightarrow |1|+2 \rightarrow R_f = (2, +\infty) \text{ III} \end{cases}$$

I U I U III $\rightarrow [1, +\infty)$ ✓

$$[2x] - 2x \rightarrow R_f = (-1, 0] \text{ I}$$

$$x^2 + 2x \rightarrow \frac{-b}{2a} = \frac{-2}{2} = -1 \rightarrow y = (-1+2-1) \text{ II}$$

I U II $\rightarrow [-1, +\infty)$ ✓

$$y = a+1 - \sqrt{2x+2} \Rightarrow x = b = -\frac{r}{p} \Rightarrow \Delta = a+1 - \sqrt{-2x}$$

$$\begin{cases} \{x+2\} > 0 \\ \{x\} > -2 \end{cases} \Rightarrow \boxed{b = -\frac{r}{p}} \quad \boxed{a = 1} \Rightarrow a < b$$

$$\boxed{x > -\frac{r}{p}} \rightarrow R_f = [-\frac{r}{p}, +\infty)$$

-6 ✓

$$f(x) = \sqrt{x+1} + \sqrt{1-x} \rightarrow \begin{cases} x+1 \geq 0 & x \geq -1 \\ 1-x \geq 0 & x \leq 1 \end{cases} \Rightarrow D_f = [-1, 1]$$

Df و Dg $\Rightarrow Dg = [-1, 1]$ ✓

$$\Rightarrow x < 0 \rightarrow f(x) + g(x) = 4 \rightarrow g(x) = 4 - f(x)$$

$$x = 1 \rightarrow f(x) + g(x) = 4 \rightarrow f(x) = 4 - g(x)$$

$$x = -1 \rightarrow f(x) + g(x) = 4 \rightarrow f(x) = 4 - g(x)$$

پاسخ نه ...

چون دافنه لیوړنه است بر د علم پیوړنه وینه
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